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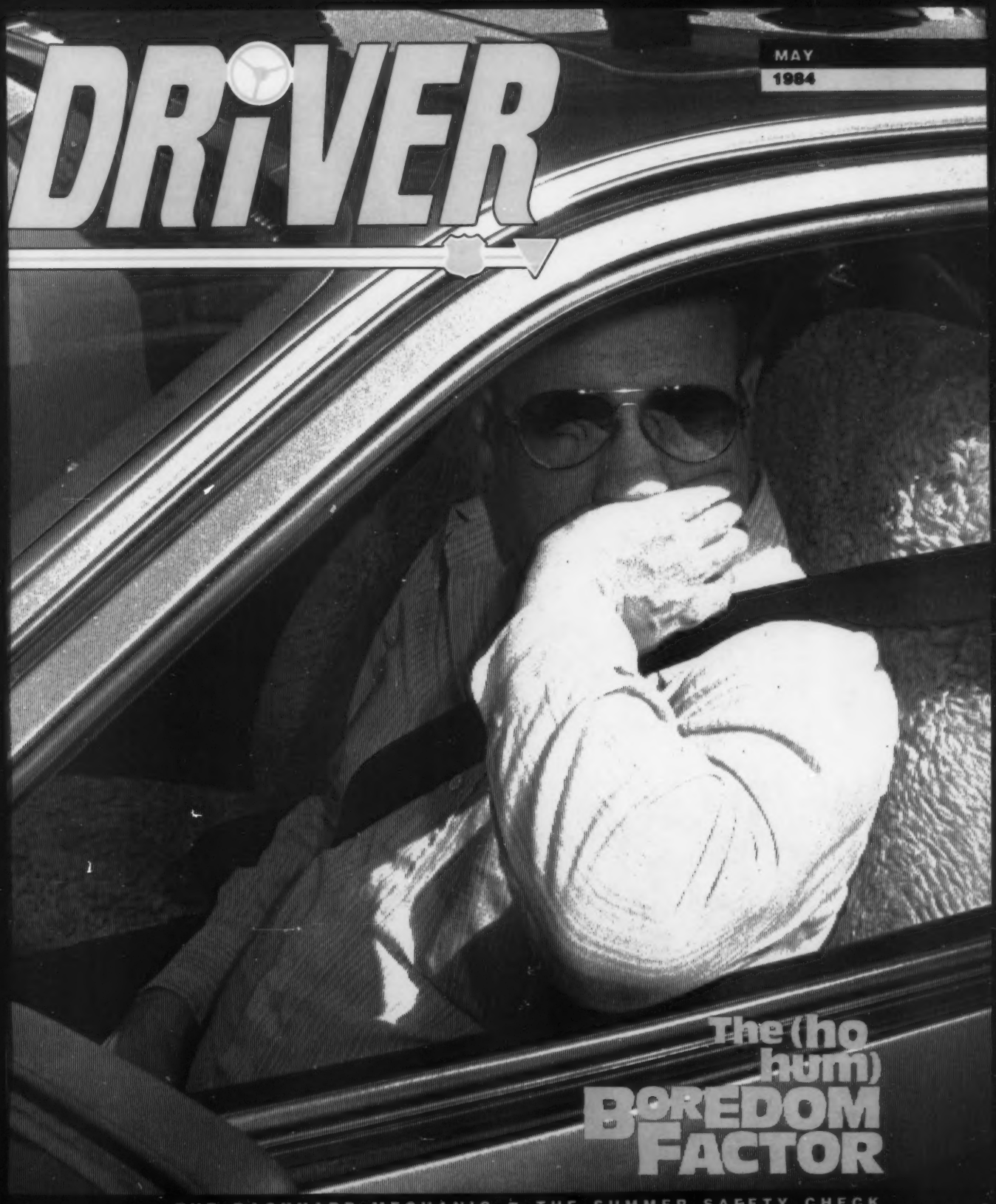


The (ho hum) BOREDOM FACTOR

THE BACKYARD MECHANIC ■ THE SUMMER SAFETY CHECK

THERE'S NO SUCH THING AS A MOTORCYCLE PASSENGER

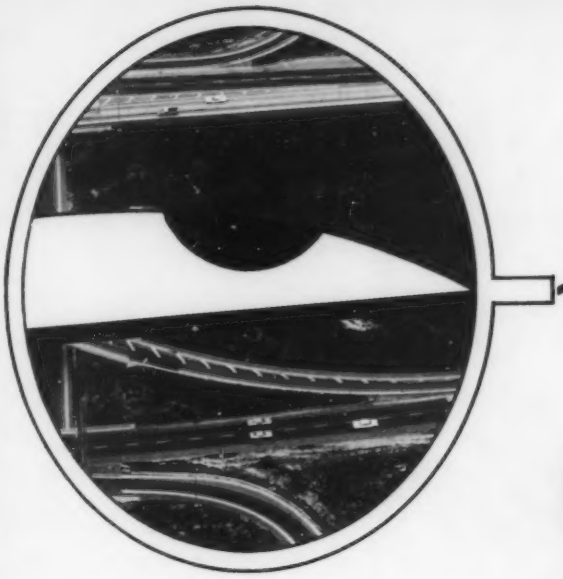
DRIVER

Long vacation drives are not the most interesting. Take care to guard against fatigue and monotony.

It is much wiser to have a light meal while you're traveling than to stuff yourself with heavy food. You can use the time to plan the next leg of the trip.

It's 10:30 a.m. The driver swings his legs off the stool at the counter in a small diner. Three cups of coffee with a large breakfast and a cigarette have helped wash away a few mental cobwebs and he feels like he can get back on the road. Ten hours on the road yesterday have left him tired and aching, and he has a dull throb behind one temple that he attributes to the several beers he drank last night, just before hitting the sheets. He decides to ignore the pain and get started.

He pitches his suitcase in the back seat of the car and gets in. He thinks one of his taillights is burned out, but he puts it out of his mind, reasoning that it will be hours before sundown and he can see to it later.



The (ho hum) BOREDOM FACTOR

About three that afternoon he stops for a sandwich. He checks his roadmap and makes a couple of decisions. First, he thinks he won't find a decent diner on the road ahead, so he has a fried chicken dinner with mashed potatoes and all the fixings. Second, he sees that he has around 400 miles yet to drive before he reaches his destination, so he decides to drive as far as he can before stopping. That will leave less to drive tomorrow, and he's sure he can find a motel somewhere by the time he is ready to turn in.

He tops off the tank and then finds the highway entrance. He figures he can shave a little time off the total by upping his cruising speed from this morning's 70 to 75 or so.

After an hour on the road, he realizes he's not as alert as he would like to be. He finds himself staring at one point in the road ahead and it takes him a conscious effort to look at the signs as he passes them. At some point he realizes he has missed a mileage sign he wanted to see. He stops for a cup of coffee, which he takes back to the car and sips as he drives.

By seven that night, he is in the middle of nowhere. He has paid little attention to the signs and has only a vague idea that he'll reach a town in the next 50 miles. He knows he still has plenty of gas from the last quick fill-up. He has dozed a couple of times, which he blames on the lack of radio stations to keep him awake.

After another hour, and a couple more near-naps at the wheel, he begins to think it's time to find a place to sleep. He is annoyed at himself because it isn't even nine o'clock and he still has a long way to go. At the third little town he finally finds a motel with a vacancy. He gets a six-pack to help him relax and shuffles off to bed . . .

Pushing too hard: This is, of course, an exaggerated example. This driver did just about everything he possibly could to tire himself out. He started late. He got too little rest. He stopped too infrequently and ate too much. He drove too fast and too long and he ignored the signs of fatigue that should have warned him to stop much earlier. He did just about

continued

Don't wait for a scheduled fuel or meal stop to get out of the automobile. There are things to see at the established turn-outs, and the break from the wheel will do both you and your passenger a lot of good.

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DRIVER

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THE EDITOR SPEAKS

DOUBLE CLUTCH

PRODUCT LIABILITY

Chances are most of us haven't thought much about product liability. We buy products with a kind of blind faith that they have been designed and manufactured in accordance with the present state of the art and will do their jobs without causing us harm. We don't worry about getting electrocuted by the new hair dryer or being run down by the power mower gone amok.

Actually, the product liability laws aren't so clear-cut as we might assume. It is not absolutely certain that once a technology is sufficiently developed a manufacturer is responsible to use it in its products to protect consumers against injury.

An interesting lawsuit was filed on this point but it never got to court. A woman driver sued a car manufacturer because she was severely injured when her 1975 car was involved in a front-end collision. Her attorneys said the car manufacturer was responsible because it had failed to provide or offer air bags as a passive restraint. The lawyers were going to maintain that an air bag would have minimized or prevented their client's injury.

The car manufacturer settled the suit out of court (for $1.8 million) but said it was not because of the air bag issue. The implication was that the manufacturer did not want to confront the brain-damaged young woman in court. Had the issue been settled in court, it could have established a first in product liability cases.

Automotive News, the weekly newspaper of the industry, says "There has been some question as to what suits might be triggered if an occupant were injured in a car that was equipped with an air bag. That question now seems to take second place to the question of liability when injury occurs in a car that is not equipped with air bags. In the long run, the $1.8 million may turn out to be chicken feed, compared to what might happen once the legal profession begins to follow this path in earnest."

the boredom factor

continued

Make frequent stops along the way on your vacation drive. A short 15-minute break for coffee will refresh you for hours.

everything wrong. His actions show lack of planning, and lack of respect for his own limitations.

Of course, he didn't see it that way. In his mind, he was simply trying to get to his destination in the least possible time.

Perhaps you've taken a vacation trip like that yourself. If so, you remember how tired you were upon getting to your destination, and how you vowed not to do it again. Even under better circumstances, long distance driving can be exhausting. For those of you who have never tried it, we can offer some advice on how to avoid tiring yourself out on your vacation, and therefore how to enjoy it more. For the repeat offenders who push themselves too hard again and again, read on, and try to change your habits.

The sandman: Our fictitious motorist encountered the two main enemies of long distance drivers — fatigue and monotony. He drove himself as hard as he drove the car, and he ended each day dead tired. A more reasonable driving schedule, with respect for his limitations, would have been better. That much is obvious, although drivers so often exceed their limitations that we will spend some time discussing ways to fight the fatigue problem.

But let's look a little closer at that second problem — monotony. Long hours on the road have a strange effect on the driver's mind. When the drive is dull, the thinking will tend to become dulled as well. It has been called "highway hypnosis," and the condition this describes is not unlike a trance. The sameness of the road causes the driver's thinking to drift away from driving. The driver stares out the windshield so long without any variety in the field of vision that his or her mind goes into neutral and driving is done largely on reflexes. This can be dangerous.

You have all had the experience of staring at something and being almost hypnotized by it. Look at a candle flame long enough and you cease to see it. Then, another person will have to actually startle you to get your attention.

Likewise, when you are driving and the view ahead becomes monotonous, your mind will begin to shut it out and concentrate on other matters. If an emer-

continued

gency situation presents itself then, your reactions will be slowed that much more, perhaps beyond the point of safety.

These enemies must be kept under control if you expect to arrive safely wherever you're going. Let's look at some practical ways to keep the sandman at bay.

Plan it: Having a safe and non-tiring vacation will take more forethought than just tossing a suitcase in the trunk and aiming the car at the horizon. Develop a plan for your trip. Plan it not only around the distance you have to travel but also on the limitations of your endurance. The driver in our example overextended himself. He had too far to drive for just one person, and he drove too far each day, following the "I'll-drive-until-I-*have*-to-stop" theory of motoring.

The trouble with that idea is, the point at which you "have to stop" is a very subjective judgment. You could easily push yourself too hard and fall asleep at the wheel, ending up in an accident.

It would be much better to set an arbitrary limit to the amount of time you'll spend behind the wheel, both the total time for the day, and the segments of driving during the day.

For instance, let's say you have 700 miles to travel. That doesn't sound like a lot, but that would make two days of 350 miles each, or seven hours at the wheel at 50 mph. That still might not sound too bad, but you have to allow for stops for meals, and stops for gasoline, and stops just for the sake of stopping.

Set an arbitrary limit of no more than eight hours on the road per day. Remember: That includes all stops — meals, gas, everything. Eight hours is plenty, when you consider the stress of driving, and the possibility that fatigue and monotony will interfere with your efficiency.

Further, set an arbitrary limit of no more than two hours of driving between stops. Then make a short stop and get out of the car. Stretch and move around for a short time. If you're traveling with another person, let him or her take the next turn driving. If you're going it alone, make sure you are stretched out and comfortable before you sit down and turn the key again.

By the way, planning involves knowing what's ahead so you are not unnecessarily delayed. Such things as bad weather or bad road conditions ahead — even accidents — could force you to extend your driving day and make you push too hard. Call the weather service and the highway patrol to get a reading on what to expect. Plan your trip around any hazards that might slow you up.

Stops: To repeat, get out of the car at your stops. Don't be like the driver at the beginning of the article, who got out only long enough to shove a few gallons in the gas tank or grab a quick cup of coffee to drink in the car.

If you don't get out and move around, your body will be cramped, stiff and sore from the lack of movement. Further, the lack of movement will promote sleepiness. Compare it with your evenings at home: Sitting in front of boring television programs will put you to sleep. Sitting at the wheel gazing at boring countryside will also put you to sleep.

Do some light exercise like stretching and walking around when you get out of the car. Your body will feel better and your circulation will increase, giving your brain some badly needed oxygen. When you return to the car you will be revitalized for the next leg of the journey.

Day's end: Look back at our traveler at the start of this article. He drove until he couldn't hold his head up and then begun to look for a place to sleep. He was already tired enough to stop before he even started to look for a motel.

This is all too common a problem with motoring vacations. Have you ever done this: You realize you are tired and begin to look for a stopping place — usually long after the sun has set and the lodges are all full. You add stress and frustration to the fatigue with each "no vacancy" sign you drive by. When you finally find a room, you are angry as well as tired. Although you sleep soundly, you wake up the next morning still feeling a little worn out.

(right)
You can have the attendant pump your gas if you like, but don't just sit there while he does it. Get your body, and your mind, moving again by stretching your legs.

So how to fight this particular fatigue producer? Plan your trip around the end points for each day. If you will be staying in motels, get a motel guide from your auto club and select a motel at an appropriate point on the route. Call ahead for a reservation.

Plan to stop early enough to have your evening meal and then relax before you go to sleep. You need that time to unwind from the day's drive, because sleep alone won't give you a recharging of your body's batteries.

If you're traveling with a trailer or camper or plan to camp out some other way, check the route for established campgrounds. Call them for reservations.

Reserving your place to stay for the night will remove another small worry that could interfere with your driving. After all, you wouldn't fly somewhere without first making sure you had a bed at your destination, so why take a chance when you're motoring?

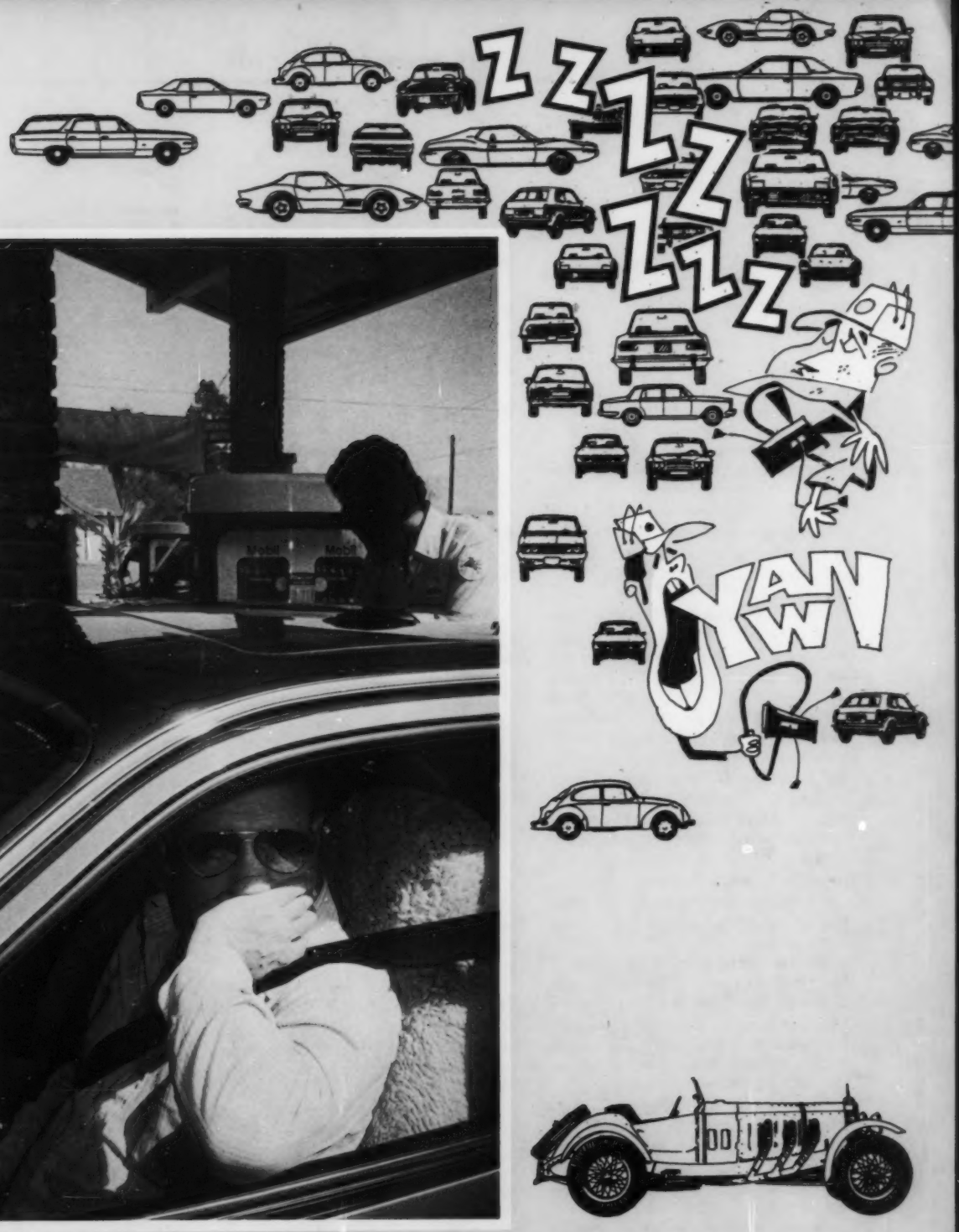
Heat/Cold: Your comfort as you drive is an important factor in enabling you to remain alert. But you have to walk a fine line with some things, like warmth for instance.

If you are comfortably warm, you can keep your mind on the driving, but beyond that you might get drowsy, like you do when bundled up in bed under a nice electric blanket.

On the road it is better to remain on the comfortably *cool* side, just cool enough so your mind is sharp, but not so cool that you think more about the temperature than the road. Here, the car's air conditioning system could be considered a kind of safety feature, keeping you from being drowsy or irritable.

My aching back: The comfort of your spine can be a good indication of how tired you are. Fatigue often shows up first

continued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in the lower back. Therefore, give your back a break (figuratively). Adjust the seat back so that your driving posture is upright behind the wheel. If the seat itself doesn't provide the proper support for your lower back, slip in a small cushion.

Don't slump down behind the wheel. You can't maintain efficiency very long when you are slumped down with your knees up around your ears. Sit upright and grasp the wheel lightly with both hands. (Grasping the wheel too firmly can also add to the muscle strain.)

To help you to remain upright, use your seatbelt and shoulder harness. Wear the belt snugly over the hips (not the stomach) and adjust the shoulder harness so it's just loose enough to slip a hand between it and your chest. Not only will the belt ease your back by helping you sit up straight, it will also hold you in place during quick maneuvers of the car and therefore help you maintain control.

Vision: One contributing factor to fatigue not usually thought of is eyestrain. Staring out through the windshield for long periods of time will cause your eyes to get very tired. Bright sunlight will add to this problem, when you will have a tendency to squint to compensate.

For the latter problem, have a good pair of sunglasses to cut down on the glare — they will help.

For the general problem of eyestrain, keep your eyes moving. Movement will give them a rest, just like getting out of the car and moving around will give your body a break. Sweep your eyes from left to right and back. Read all the road signs. Consult your mirrors often.

This changing of visual focus will do more than just keep the eyes rested. It will also keep the mind more active by varying the visual input. If you catch yourself staring, it's time to stop and get out for a little while.

Speed: Traveling at the same speed for a long time can hypnotize you. It's the lack of variety again — the same speed, the same drone of the tires on the road, the same sound of the air rushing past, etc. So vary your speed. You don't have to vary it greatly, just enough so you don't get used to a constant 55 (or whatever).

Following other cars steadily can have a similar hypnotizing effect — not to mention that this lets *them* decide *your* traveling speed. Give other traffic plenty of room, and travel at your own speed.

Spare driver: Perhaps the easiest way to wage your battle against fatigue is to have reinforcements. That is, have someone else along to take over the driving for you.

Especially on long vacation drives, it is unwise to travel alone. No one person can expect to remain at peak efficiency for several hours at the controls of a car. Once fatigue or monotony sets in, the driver needs to become a passenger.

With another person in the car, you can share the time at the wheel. Change seats at regular intervals, with each person driving no more than a couple of hours at a time.

When you stop to change drivers, do more than just have one person slide across the seat while the other goes around and gets back in. Both people should get out and move around, stretching and exercising a little. This will wake the passenger up for his or her turn driving, and it will relieve the tension in the driver's body so he or she can rest more comfortably.

Advice to passengers: The passenger should do all he or she can to keep the driver alert. Talk to the driver and keep his or her mind active. Make sure the conversation is light. Arguments and heated discussions can take the driver's attention away from the road just as quickly as monotony can.

Do everything you can as the passenger to aid the driver. Handle the roadmaps. Look for places to stop for gas and food. Watch the driver's condition and beware of the blank stare. If you notice your partner is staring out with nonmoving eyes, he or she could be ready for a turn in the passenger seat. Mention the fact and suggest you take the wheel.

(near right)
A solo vacation drive is not only lonely, it is also a dangerous situation, in terms of remaining awake for long periods of time. Better to take someone along to share the wheel.

(far right, top)
Excess sunlight makes your eyes tired, and this contributes to the overall fatigue you feel on your long trip. Sunglasses will fight this problem.

(far right, middle)
This seating position will not help you to travel long distances. A slumped-down position will put extra stress on your back and tire you out sooner. Also, the seatbelt and shoulder harness would help this fellow sit up straight.

(bottom)
Go ahead and take a short nap while you are the passenger. But if you have to take an extended sleep, perhaps you are too tired to be on the road.

As passenger, you can sleep a little to rest up for your next turn as driver. But remember, part of your job is to keep the driver alert, so don't sleep for long periods of time. Further, if you must sleep a lot, perhaps you are not rested enough to drive and the two of you should find a place to stop for the night.

This applies especially to those folks who try to take very long drives without stopping. Three people might be able to travel farther without stopping by switching turns at the controls. However, the passengers will not get good sleep in a moving car. They might wake up, get behind the wheel, and immediately go into a hypnotized state. There are many cases of several people in a car, all asleep, when the driver also dozes off and runs off the road. Marathon team-drives are, to put it mildly, unwise.

What to avoid: You should always avoid the things that will interfere with your ability to remain alert. One of these things is alcohol. Our long distance driver at the start of this article used alcohol to relax himself before sleeping. It might have done that, but it also gave him a hangover the next day.

continued

One thing the passenger can do for the driver is talk. An interesting (but not heated) conversation will keep the driver's mind active and therefore his driving will be more efficient.

At least he didn't drink while on the road. Alcohol has an anesthetic effect on your whole body, including the brain. If you drink in conjunction with driving, you will relax too much, even if you just drink a little. Further, alcohol will increase your chances of falling asleep, especially if you are tired to begin with.

Other things to avoid are certain kinds of food. What you eat, and how much, can affect your alertness in the car. To many Americans, a satisfying meal consists of quantity — the more the better. If you think like that, you should put yourself on a diet for the driving vacation.

After a big meal, the strongest impulse you have is to take a nap. This is a normal reaction of the body, but it doesn't help you when your immediate task is to reach the next town 250 miles away.

Therefore, eat light meals before you get in the car. Avoid heavy foods and fried stuff. Those may be good for a backyard cookout, but they're like sleeping pills on the highway. If you eat lightly, you may want to stop more frequently for another snack, and that's good. Stop whenever you feel the need for a break.

Solo: If you have to drive a long way by yourself, you can still do so safely if you remember the methods we've cited before. Don't drive too far in one day. Stop frequently. When you do, get out of the car and stretch. Keep your eyes moving and your mind active. Eat lightly. Vary your speed.

But you still have the problem of keeping your brain from switching off and nobody to help you. If the road doesn't supply the necessary variety (or if it's too dark to see much) you have to do something to keep your mind active.

The radio is good for this purpose. Turn it on to a station with some loud, fast music. The "easy listening" stations play stuff that is so soothing it is almost "music to fall asleep by." You can sing along with the loud music. (After all, you're alone; who'll hear you?)

You could even talk aloud to yourself, reading the signs on the road.

Whatever tricks you use to keep alert, do them *before* you begin to get tired. Don't wait until you begin to get drowsy to play mental alertness games, because by that time it's really too late. You won't be able to tell when you are too tired to drive.

Marathon? Now, despite everything we say, we're sure some of you will decide to go from one coast to the other in two days or something. You figure you and your two friends can drive around the clock and each take a turn at the wheel for five or six or seven hours while the others sleep.

We have one piece of advice for you: Please don't. We want you around next month.

pre-drive CHECKS

This month's Backyard Mechanic tells you what to work on to prepare for the coming summer drive, but there is also a daily list. Before you start out each day, do the following quick checks to make sure the car will deliver you to your next night's lodging:

Tire inflation

Working of lights, signals and brakes

Fluid levels:

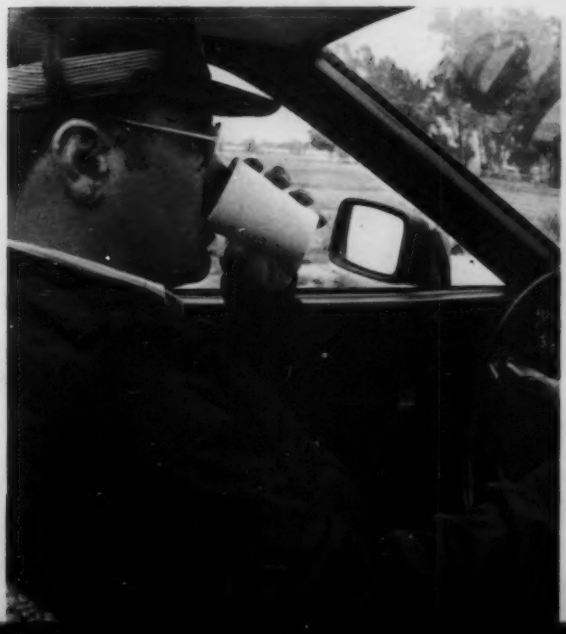
- **Coolant**
- **Oil**
- **Transmission**
- **Brakes**
- **Power Steering**

Battery

Our thanks to Del Rosa Mobil Service, and to CoCo's Restaurant in San Bernardino, Cal., for their assistance with the photographs for this article.

(left)
Take over some tasks for the driver, like searching for places to stop and hunting for routes on the map.

(below)
Being hypnotized by the road leaves you with a blank stare as your mind is working on other matters besides driving the car. Keep your eyes moving and use your radio to hold your interest if the road is boring and monotonous.



(left)
Coffee is a good beverage to keep you alert, but it's better to drink it in the restaurant, because you need a break from your car. Besides, you could spill the hot stuff all over yourself.

There is NO SUCH THING as a motorcycle PASSENGER

Second riders on motorcycles can be co-riders, co-pilots, navigators and safety officers, but never just passengers. Similarly, a solo-ridden motorcycle is not the same machine when ridden two-up.

When it comes to passengers, four-wheel vehicles have it much easier. The passenger hops in, buckles up and away you go. Not so with a motorcycle. Before you can even think of taking on a passenger, your machine has to be capable of handling the extra load.

Every vehicle, whether it has two, four, six or 18 wheels, has a weight limit beyond which it is no longer safe to operate. This is the vehicle's gross vehicle weight (GVW) rating, which is the sum of its gross axle weight ratings. GVW is the total weight of the vehicle, operator, fuel and cargo, including the "passengers." To exceed the GVW is to invite disaster. Similarly, it is not wise to exceed gross axle weight ratings.

GVW is limited by the weakest component of the axle system, which consists of the tires, wheels, springs and axle. On motorcycles, tires are usually the weakest link.

(below)
Two-up motorcycling can be a great experience.

(left)
Both riders should be wearing the same protective gear: helmet, eye protection, heavy clothing, gloves and boots.

Basically, a tire is an air container that uses air to support loads. If you need to support a larger load, then you must increase the quantity or the pressure of the air in the tire. You can increase the quantity of air by providing a greater volume container — changing to a larger size tire. Because a tire will only hold so much air pressure, in order to increase the load-carrying capabilities you might have to change to a higher load range tire of the same size.

Here are some simple rules that should be followed regarding motorcycle tires:

- Never intermix tires. Standard size tires help you avoid handling problems.
- Maintain size relationships of front to rear tires.
- Don't exceed original tire size by more than a single size increment. There are limits because of the rim widths and fender clearances.

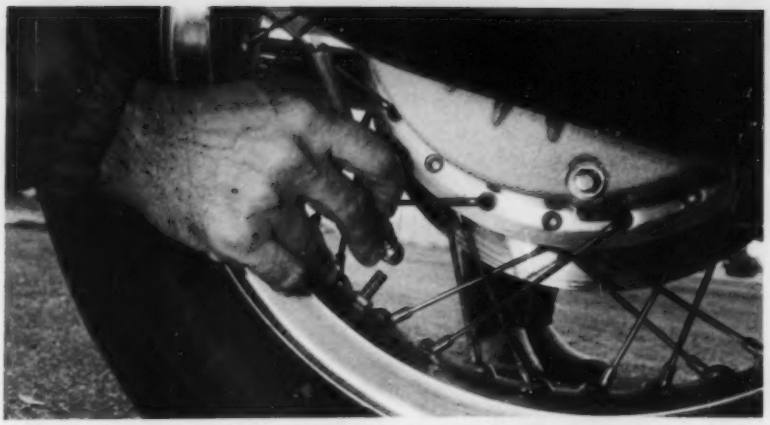
For example, a typical 1,000-plus cc touring bike with fairing and a full load of fuel weighs 745 pounds. Plop on a representative 175-pound rider/operator (including the weight of helmet, jacket, boots and gloves) and the machine is ready to roll at 920 pounds, with 580 pounds on the rear axle, 340 on the front.

The sports/hi-performance tires on this machine have a maximum load of 520 pounds front, 600 pounds rear inflated at 42 pounds per square inch (psi). That makes the machine's GVW 1,120 pounds (520 + 600). The GVW less the total weight of the machine and rider equals the load that could be safely carried. In this case, 1,120 − 920 = 200 pounds. But this 200-pound load must be placed so that no more than 20 pounds is on the rear wheel (the 600-pound axle load limit less the 580 pounds already placed on it).

The same motorcycle and rider with a set of touring tires inflated to 40 psi has front and rear load limits of 410 and 695 for the GVW of 1,105 pounds. In this case, the maximum load would be 185 pounds (1,105 − 920), but 115 (695 − 580) of those pounds could be carried by the rear axle.

Now if we take the same machine and put on an even larger set of tires we get front and rear gross axle weight ratings of 810 pounds each with 42 psi front, 40 psi rear. Now the machine can carry an additional 700 pounds (1,620 − 920), with 230 pounds (810 − 580) on the rear axle.

If you exceed these limits you are running the risk of tire failure because of overheating from the load. The motorcycle is going to be unstable, the braking performance is going to fall way off, and you could even have structural failures!



Before taking a second rider, make sure your tires are inflated to handle the extra load.

The shock pre-load will probably have to be adjusted before attempting any two-up riding.

Once you've determined gross axle load ratings you'll need a set of scales for the front and rear wheels to determine exactly what loads you're placing on each.

Getting off the weight: A word to the wise: The chain is going to experience additional stress and wear when riding

continued

Be sure to point out all the hot spots of your motorcycle to your second rider before he or she finds them accidentally.

continued

two-up. Keeping it well-lubricated and clean becomes more of a *must* now than ever.

If you ask somebody how to set up your machine for an additional rider, s/he might tell you to check your owner's manual. Be prepared for a surprise. The manual will probably read something like this:

"When carrying a second rider, tire pressure will have to be increased and the springs will require additional pre-loading."

Not very specific, is it? The vagueness is understandable because each situation is going to be different and will require each operator to make his or her own value judgments. Value judgments made from bike feedback on the road such as ride, handling, stability, etc.

However, if you need a rough idea about pre-load settings, try this: Climb aboard in your normal seating position with the second rider seated (feet on pegs). Steady the machine with your toes (off the kick stand) as you slowly sit down. If the shock compresses more than one to 1½ inches, the spring rate is too light. Now bounce up and down. The shock compression should be easy, while the rebound is notably slower. You'll want to have a fair amount of shock travel left in all these positions.

Check out the front shocks the same way.

Second rider check out: OK, it's time to check out the second rider. Begin with the clothing. Loose clothing problems such as shoe laces and pant legs are going to have to be solved before they become tangled in the chain or wheel spokes.

The second rider should be wearing the same protective gear as the operator: helmet, eye protection, heavy clothing, gloves and boots.

Now caution the second rider about contacting hot parts of the motorcycle such as the exhaust pipes and mufflers. Be sure to show the second rider exactly where all the hot parts are — your friends don't know your machine as well as you do.

The second rider always sits directly behind the operator, never sidesaddle, and holds onto the operator's waist or hips lightly but securely. Second riders, no matter how affectionate, should not deathgrip the operator — supporting the weight of two people becomes very hard

The second rider always sits directly behind the operator holding onto the operator's waist or hips lightly but securely.

When accelerating, both the operator and second rider lean forward slightly.

When stopping or braking, the second rider should brace against the footpegs and lean back slightly.

The second rider's feet are always on the footpegs.

As a co-pilot, the second rider sits erect behind the operator, relaxing enough to lean with the bike and looking over the driver's shoulder in the direction of the turn.

on the operator's arms and back.

When accelerating (including starting from a stop), both the operator and second rider should lean forward slightly. Loss of steering from load shifting or, worse, a wheelie is no fun. When stopping or braking, the second rider should brace against the footpegs and lean back slightly to reduce the weight shift forward.

Yes, the second rider's feet are always on the footpegs.

Leaning: Now we get to the classic two-up riding instructions: "Don't lean unless I do — you can actually steer the bike when you lean. Lean as I lean."

Actually, most solo riders don't lean at all. The bike leans and they lean with it. So, if an overhelpful second rider leans into a curve, the bike is going to suddenly start turning sharper than the operator wanted it to. Should the second rider lean the wrong way, the bike, with two very frightened riders, is going to go straight instead of turning.

So what's the second rider supposed to do? Become a co-pilot and sit erect behind the operator, relaxing enough to lean with the bike but taking no clues from the driver's body position. On right-hand turns, the co-pilot looks over the driver's right shoulder; on left-hand curves, s/he looks over the operator's left shoulder.

Co-pilot? Sure, the second rider should read the road ahead just as if s/he were the driver, getting ready for lane changes and emergency maneuvers. There's nothing like attempting an emergency move and having another helmet crack into yours. And in the city, the second rider has to become a navigator and safety officer, watching traffic situations and reading road signs because the heavy traffic is very demanding on the operator.

A word of caution: If this is the second rider's first trip (no matter how short) on a motorcycle, don't try to impress her or him with the machine's performance. All you are going to do is terrify the second rider. And when terrified, second riders have been known to do some very weird things.

Which brings up a point for second riders: Don't make any moves without telling the operator in advance. There's no reason to scare the driver even if s/he tried to terrify you.

One last hint about getting things in order. Start the engine before the second rider mounts.

Is that all there is? No, but two-up riding is one of those team activities that is developed with experience. But please don't tackle it until you've honed your solo skills smooth.

RE IN CAR NA TION

I'm telling you, doll, next time I'm comin' back as a 4-wheel drive pickup!
NEXT TIME? You've been here before?
MANY TIMES, M'DEAR, MANY, MANY TIMES... "HERE TODAY AND HERE TOMORROW," THAT'S ME...
BUT IF YOU'VE BEEN BEFORE THAT ME YOU'VE DIED BE
CORRECT! I CAME BACK AS A 1912 MODEL-T!
THE TURKEY WHO OWNED ME WAS ONE OF THOSE TIGHTWADS WHO WOULDN'T SPEND A DIME ON MAINTENANCE OR UPKEEP. WHAT DONE ME IN THIS TIME WAS A BLOWOUT!
"BANG!" WENT THAT WORN-OUT TIRE AND OFF THE ROAD AND INTO A TREE WENT I... A PAINFUL WAY TO GO...
... BUT YOU CAME BACK...
... AS A 1924 ESSEX... ONLY TO BE KILLED BY A DRUNK DRIVE ONCE AGAIN...
BANG!
AND IN THE PAST 50 YEARS?
I HAVE ALWAYS RETURNED! ... AS A 1938 DODGE... ... A 1946 MERCURY... ... A 1956 T-BIRD... AND ON AND ON — ONLY TO ALWAYS MEET THE GRIM REAPER IN HIS GUISE OF A FATAL (TO ME) ACCIDENT!
AND THEN, DURING THE 1960s, ALONG CAME DRUGS! NOW, IN ADDITION TO DRUNK DRIVERS, WE HAVE THE DRUGGED DRIVER! A DOPER OWNED ME WHEN I WAS A '68 DATSUN.
DONE ME IN HE DID. I WAS OFFED ON AN OFF-RAMP. BUT I CAME BACK AS A '76 VW.
ONLY TO BU IT AGAIN IN A SPEEDIN'-IN-T FOG-CHAIN-RE PILEUP!
DO NOT ENTER
WRONG WAY
ONE WAY

BEEN HERE
T MEANS
D BEFORE!

MANY TIMES, M'DEAR, MANY, MANY TIMES, THE FIRST TIME I KICKED-OFF I WAS A **1907 CADILLAC RUNABOUT...**

I WAS OWNED BY A DRUNK WHO GOT LIKKERED-UP ONE NIGHT AND DROVE DOWN THE RAILROAD TRACKS. HE THOUGHT THE ENGINE'S HEADLIGHT WAS THE SUN COMIN' UP...

KILLED ME DEAD! A WORD OF ADVICE, M'DEAR... NEVER TANGLE WITH A RAILROAD TRAIN...

THAT'S AWFUL! BUT YOU SAID YOU WERE REINCARNATED?

X...
LLED
RIVER
N...

THIS TIME THE DRUNK WAS IN THE OTHER CAR. HE RAN A RED LIGHT AND HIT ME IN THE **BROADSIDE!**

A VITAL SPOT M'DEAR. I WAS DECEASED ON THE SPOT... AND ME ONLY 10 DAYS OUT OF THE BUY-A-NEW-CAR PLACE...

HOWEVER, WHEN I CAME BACK AS A **1934 FORD V-8**, MY DEMISE WAS A BIT MORE SPECTACULAR...

I WAS SHOT TO DEATH BY TEXAS RANGERS. MY OWNERS, YOU SEE, WERE **BONNIE AND IRVING** THE NOTORIOUS POET AND HER WIMP ACCOMPLICE!

O BUY
N IN A
-IN-THE-
N-REACTION
UP!

SO HERE I AM M'DEAR, A BRAND NEW **1984 WHATZIT!** DÉJÀ-VU, DOLL, I HAVE BEEN HERE BEFORE

MAYBE YOU'LL BE LUCKY THIS TIME, MAYBE YOU'LL DIE OF OLD AGE...

MAYBE, BUT I'M NOT HOLDIN' MY BREATH

OH...?

Y'KNOW WHY I'M PARKED OUTSIDE THIS BAR? I'M WAITIN' FOR THE GUY WHO OWNS ME TO GET DRUNK AND BUY SOME POT FROM A PUSHER WHO OPERATES OUT OF THIS JOINT...

TIPS HELP BEAT THE HEAT

Notable among the bold face warnings on your car owner's manual is the one regarding the radiator pressure cap. DO NOT REMOVE IT WHILE THE ENGINE AND RADIATOR ARE HOT. There is danger of being scalded by steam and hot coolant. If your car should overheat, says Car Care Council, pull safely off the road, shut off the engine and let it cool down.

Then, using a thick wadding of cloth for protection, turn the radiator cap to the first notch. This will release the pressure. When all pressure is relieved, still using the protective cloth, stand back and remove the cap.

Some types of caps have pressure relief valves which require only lifting the lever to release pressure.

Note: Under some circumstances the ethylene glycol in anti-freeze coolant is flamable. Avoid spilling it on hot engine parts, such as the exhaust manifold.

If you have to add coolant, allow the engine to cool as much as possible. Keep the engine running and add water slowly. Avoid adding ice cold water because a fast steam buildup could result and cause scalding. Also, a sudden change from hot to cold could cause the engine block to crack.

Even a well cared for engine may overheat when it is subjected to long periods of idling with the air conditioner turned on, such as in a traffic tie-up due to disabled cars. It is possible to reduce the chances of overheating . . . although at the expense of driver and passenger comfort.

Automotive engineers recommend:

1. Turn off the air conditioner.
2. Whenever possible, shift to neutral.
3. Increase engine speed to fast idle to increase fan speed (on cars equipped with belt driven fans).
4. Open all windows.
5. Turn on the heater (for added coolant flow) and adjust heater temperature to hottest setting.

While these may sound like extreme measures in extreme heat, they can prevent a disabling boil-over during extended periods of stop-and-go driving.

If you're driving long distances in hotter than normal conditions, such as vacation driving with a trailer in tow, it's good practice to check the coolant level each morning. With the engine working harder and running warmer, coolant evaporates at a faster rate.

Overheating, most common in late spring and early summer, generally can be avoided with routine preventive maintenance. Before the advent of hot weather, flush the cooling system and put in a fresh supply of anti-freeze coolant. The mixture should be a 50/50 mixture of ethylene glycol and water.

Other basic checks of the cooling system are as follows: Radiator and hoses should be pressure checked for leaks. During short drives to the station or shopping center, the cooling system may not reach its maximum pressure. On a long trip, however, leaks may develop. All hoses, including those connected to the heater and the engine block, should be inspected. High temperatures and normal aging will weaken hoses. Check for cracks and sponginess. All connections should be tight.

The radiator pressure cap should be tested to be sure it holds correct pressure. If it does not, the coolant may boil away. The pressure cap test generally can be done at the same time the radiator is pressure-tested.

Also, it may be necessary to remove and test the thermostat. When this valve fails to open and close at specified temperatures, overheating may occur or the engine may run too cool.

Drive belts should be closely inspected. A belt that is frayed, cracked or deteriorated from grease is potential trouble and should be replaced. Proper tension is important too. If a belt is too loose, overheating may result.

While cooling system service generally is an inexpensive part of car care, it can save inconvenience and expense.

IGNORANT OR STUPID?

By
SSgt. Michael C. Coons
Wright-Patterson AFB, Ohio

Definitions of "Ignorant" and "Stupid", by Random House College Dictionary.

IGNORANT: (1) Lacking in knowledge or training, unlearned.
(2) Lacking knowledge about a particular subject or fact.
(3) Uninformed, unaware.

STUPID: (1) Lacking ordinary activity and keenness of mind, mentally slow, dull.
(2) Characterized by, indicative of, or proceeding from mental dullness, foolish, senseless.

Why the definitions? Because as you read the following, I want you to reflect on whether either of these words applies to you.

It's early morning. Two separate parties have wound down and two separate cars are in a path of imminent destruction. Both drivers have had a little to drink along with the passengers. One passenger (apparently the only sober one) is a baby cradled in mother's arms. Along with drinking, the seat belts are forgotten. Car one hits the driver's door of car two as it runs a stop sign.

Inside car one the driver is slammed into the steering wheel and on into the windshield causing total loss of control and luckily so for the driver because in his relaxed state he suffers only a 2-inch laceration to the forehead and a moderate concussion. The mother is even luckier. She doesn't get hurt at all because the baby has cushioned her impact with the dashboard and windshield. Unfortunately the baby is subjected to massive weight and inertia while it is being slammed into the dashboard, which causes readily apparent head injuries and very possible massive internal injuries. The fourth person is asleep in the back seat and flies into the front seat causing head and neck injuries.

In car two the driver is flung to the passenger side but his legs are pinned on the driver's side, his face hits the dashboard, lacerating and removing teeth and breaking his jaw; his chest hits the steering wheel somewhere along the way causing a punctured lung and possible internal abdominal bleeding. When he finally stops, he is effectively trapped and to complicate matters, gas is pouring out of his car.

Some poor couple in a house is awakened by the sound of screeching tires, grinding metal and terrified screams and calls my fire department and the police.

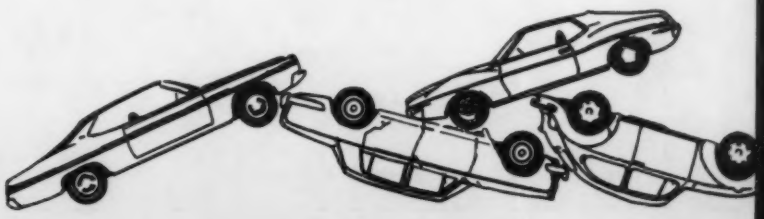
Sergeant Coons is a dental technician and a volunteer Firefighter/Paramedic. He sent us this true story with the hope it might persuade "some of the die-hards out there to wear their seat belts and lay off the booze if they're going to drive."

I'm asleep when my monitor goes off, "Attention Medic and Rescue, car accident, persons trapped." I wake up with a hope that someone's overreacting, but a sinking feeling won't leave me. I'm a volunteer Paramedic so I go to the station and along with my partners we respond to the scene. I start treating the driver and backseat passenger of car one. I ask the driver if he was wearing a seat belt and even before he could answer "No" I could smell the alcohol on his breath. My partners and the rescue crew work on the trapped victim and the baby. We call out two more squads and transport the victims to the hospital after we stabilize them.

If you think that this accident was bad and the injuries make you squeamish, then good, but I've seen and treated people far worse than these. The sad thing is 99% of the trauma I see has some definite common denominators: (1) No seat belts, (2) Drinking and driving, (3) Traveling faster than the road conditions warrant.

Enough research has been done, enough public service advertisements on TV, radio and print have been done to show without a single doubt that *just* the above three factors added together equal PAIN, SUFFERING, INCAPACITATING INJURIES AND DEATH! When will we, the supposedly most intelligent life form on Earth, use the gray matter between our ears to protect ourselves instead of spreading it on our highways?

Remember the definitions? When it comes to driving, or even being the passenger, are you "ignorant" or "stupid?" I hope you are already "smart," or soon will be.



tteecc!h! double tech with tsgt ron lathrop

COMMENT: I was reading your February issue of DRIVER about the pregnant cow under the hood. I had a similar problem and it was my EGR valve. One will cost anywhere from $50 to $80. However, it can be tested for proper operation and should be covered by the warranty.

REPLY: Thanks for the tip on the Exhaust Gas Recirculation (EGR) valve. When working properly, EGR (controlled by the EGR valve) lowers peak combustion chamber temperatures. Reduced combustion chamber temperatures are desirable in reducing exhaust emissions, detonation and/or preignition. However, EGR does reduce fuel economy and performance.

To minimize the trade-offs, EGR is regulated for various engine operating conditions by vacuum. At idle, where combustion temperatures and fuel consumption are low and smooth performance is desirable, EGR is not allowed to dilute the fuel mixture. At wide open throttle or when the demand on the engine is high (heavy loads), maximum power is desirable so EGR again is not allowed to dilute the fuel mixture.

Since EGR is a temperature-related function, the absence of proper EGR valve control will obviously increase peak combustion chamber temperatures. Such temperatures may increase octane requirements significantly and cause detonation. Component overheating (valves, piston domes, cylinder walls and spark plugs) may incite preignition which generally yields costly engine damage.

As you can see, if the EGR valve isn't working properly its efforts may be counterproductive and create some very undesirable effects.

COMMENT: Referring to your article on Wheel Bearings in the January 1984 issue of DRIVER Magazine you state: "Pack the space in the hub between the inner and outer races with grease." I disagree with that step for the following reason. Placing grease between the inner and outer bearings will not result in "that" grease being transferred to either bearing. It will, however, result in the bearings running hotter due to the removal of air space between the bearings. I recommend that old grease be removed from the inner hub and left clean.

REPLY: We all have our own theories; however, in the cases of automotive maintenance I always go with the manufacturers' recommendations. And they recommend packing the space between the inner and outer races with grease.

COMMENT: I keep seeing recommendations in your magazine for disposal of used crankcase oil. Well, I've another to add to your file. Why dispose of it when it can be used!

Used oil makes an excellent gasoline additive. Allow the particulate matter to settle out for several weeks after draining from the engine. Store the used oil in a clean jug and properly dispose of only the sludge.

One pint of used oil may be added to 20 gallons of gasoline to provide upper cylinder lubrication. This use of old oil was recommended by a chemical engineer from a major oil company. I've a car with 122,000 miles on the motor and have been adding used oil since 50,000. The engine runs like a top and doesn't use a drop of oil!

REPLY: And the oil companies are always telling us that their fuels don't need any additives.

However, I am concerned about a couple aspects of your adding oil to your gasoline. One is the risk of fouling the sparkplugs. The other is what you're dumping out the exhaust system. The pollution that clean burning engines cause is bad enough without adding oil to it.

Besides, if you take your used oil to a proper facility, it ends up being recycled, not just disposed as you will note in the next comment.

COMMENT: Recently you encouraged your readers to change the oil in their cars as a means of improving the quality of care that their car receives and saving money as well. Nowhere in the article did you address the major problem associated with performing this work — what to do with the waste oil.

Please let your readers know that many service stations will accept used oil and there are many oil recycling facilities in most cities. Used oil is too frequently dumped into trash, into a storm sewer or onto the ground; in any of these cases part or all of the oil ends up in the water used in that or a surrounding community.

Only a small percentage of the waste oil generated by do-it-yourself oil changes is recycled. The recycling of oil represents both a significant resource of oil and a simple way to reduce pollution, and it can be done by saving up a few gallons in an appropriate container and then delivering it to a local service station to add to their bulk waste.

The oil absorbants that will take up oil from one complete oil change do not really solve the above problems, they only keep the oil from spilling while it is being transported to the

dump or delay the time required for part of the oil to reach into the water.

In addition, I should point out that the dumping of oil into trash or into storm sewers is usually illegal and may be controlled by a variety of agencies such as sanitary districts, water quality control boards, fish and game departments, toxic substance control boards, and environmental protection agencies.

REPLY: Right on!

COMMENT: Your article "Fire Away" in December 1983 was very good; however, I feel you should have said a little more about engine compartment fires. Most engine fires are caused by a backfire into the carburetor. When this happens, carbon or lacquer is spit up through the carburetor and ignited. The first instinct is to shut off the key and run. If you have a fire extinguisher you would turn off the key (the engine usually stalls), then open the hood and put out the fire. This allows for greater damage to your car due to the time involved.

Usually, all that is required is cranking the engine over without depressing the accelerator. The flame would be drawn into the engine and smothered with no harm to the engine or carburetor.

REPLY: I've heard of your suggestion working — but only with luck. For example, if the hood were open, and the air filter and housing were removed, you could see the carburetor and tell that it was on fire. Otherwise, most people wouldn't know there was a fire until the smoke started pouring out from under the hood. By then several things could be burning and all you would do by cranking the engine is draw more air in to fan the flames.

In addition, if the engine backfired to start the original fire there is obviously something wrong with it. What's to keep it from backfiring again and again as you crank it over? And all this time you're drawing the flames into the primary fuel source on the vehicle and running the risk of an even greater blaze.

The best solution to *any* engine fire is to smother it as soon as possible. And the best way to smother it is with a fire extinguisher rated for gasoline and electrical fires.

COMMENT: I've got a problem about timing and the distributor housing — the hold-down bolts were loose. Please advise me on how to check or adjust the timing or distributor housing before rotating the time. Also, how do I remove and install the distributor on my (specific vehicle and engine type and size provided).

REPLY: I'm not sure what you're asking, but if it is how to tell if the distributor is loose, you grab hold of it and try to move it. If it moves, it is loose.

For basic engine timing, you rotate the engine until the number one piston is on compression. This is indicated by the ignition timing mark aligning with the pointer. Now trace the number one sparkplug wire to its terminal in the distributor cap. When you remove the distributor cap the rotor should be pointing to the terminal leading to the number one sparkplug wire. If not, the distributor drive shaft gear or coupling is broken, the drive pin is sheared, or the timing chain has jumped or broken.

The next step, of course, is timing the engine by following the manufacturer's specifications as listed in your shop manual. Make sure that the engine is warm and that you've followed all the instructions. For example, disconnect and plug the distributor vacuum lead, turn the lights on or off, turn the air on or off, etc.

To remove the distributor it is best to follow the instructions listed in a good shop manual. Usually you will follow the basic timing instructions I've listed above. Then mark (with paint or chalk) the distributor directly below the number one terminal as well as the engine alongside the distributor so that the position of the number one cylinder will be known when the distributor is reinstalled.

With the distributor cap removed (leave the sparkplug wires attached), disconnect the wire from the distributor to the coil at the distributor. Now remove the vacuum advance connection and the distributor clamp hold-down bolt.

As you pull the distributor out, twist its body to break any stickiness.

Before reinstalling the distributor make sure the basic engine timing has not been changed while the distributor was off. If a new distributor is being installed, be sure to mark it exactly as the old distributor was marked as a guide for the initial position of the rotor.

Temporarily set the distributor in its mount with the cap off, being careful to see that the coil and vacuum leads can be connected (but don't connect them until after the distributor is firmly in place). With the rotor in approximately the same position as it was when the distributor was removed (in line with the marks) allow the distributor to settle down into its mounting. Make sure the screw hole for the clamp hold-down bolt is in the center of the clamp slot.

Notice that the rotor may move as the distributor moves into position. If this happens, lift the distributor and turn the rotor just far enough beyond the desired position to allow for this change and set the distributor in place again.

Install the hold-down bolt, connect the primary wire, attach the vacuum lead and install the cap. The timing may or may not be precise, but it should be close enough that you can start the engine and set it exactly.

EDITOR'S NOTE: If you have a general interest automotive comment that you would like a reply to, and feel that others could use the information also, send it to:

DOUBLE TECH
DRIVER MAGAZINE
HQ AFISC/SEDD
NORTON AFB CA 92409

True Accidents

Following are a few reports of accidents involving Air Force members. We have removed names and references to dates and places.

ALCOHOL, CROSSED CENTER LINE

Operator number one was in his hometown for emergency leave. The night of the mishap, operator number one was drinking beer with a friend at a local bar. There was a five-cents-a-glass beer special at the bar. The amount of beer consumed is unknown. Operator number one and his friend arrived at the bar approximately 2000 hours and left around 2200 hours. When operator number one and his friend left the bar they went back to the friend's apartment. Operator number one stayed for a few minutes, then told his friend he was going home. This is the last known contact with anybody prior to the mishap.

Investigation revealed that operator number one deviated from his normal route home. According to his friend and family, in order to get home from his friend's house he would not use a certain highway. However, they did indicate that operator number one liked to just drive around for fun and this is the most likely reason why he deviated from his normal route and was traveling on that highway.

While traveling north on the highway and rounding a curve to the right, operator number one crossed over the center line and struck an oncoming semi tractor trailer on the front left side of the tractor. According to operator number two, operator number one seemed to be traveling at a high speed and without warning suddenly crossed over the center line. After impact, operator number one's vehicle went airborne for 114 feet, landing upside down on the east side of the road. Upon impact, operator number one received extensive internal fatal injuries.

At some time before the vehicle came to rest, operator number one was thrown clear of the vehicle and landed 45 feet south of this vehicle. At an unknown time during or after the impact the gas tank that is located behind the single seat, inside the car, split open. The fumes from the gas were ignited by an unknown ignition source, causing the pick-up to catch fire. Operator number one's body was engulfed in flames due to gas being splashed on him during the gas tank rupture. His body was so severely burnt that there were not enough body fluids to perform a B.A.T. (Blood Alcohol Test).

Seatbelts were available but not used by operator number one.

HANGING OUTSIDE CAR

Both operator one and passenger one went off duty at midnight and went to their barracks and to bed. They both arose at approximately 0930, then jogged for about three miles. At approximately 1130, they departed for the university, where they each gave some blood, departing the university at 1345 and returning to base to get ready for work.

Operator one reported for duty at 1530 and passenger number one reported for duty at 1545. Operator number one went off duty at 1830 and proceeded to the barracks to wait for passenger number one. Passenger number one went off duty at 1830.

At the barracks they decided to go to a bar, which is located some 10 miles north of the base, where they planned to have some drinks and dance. Passenger number one was hoping to meet a girl acquaintance who was usually at the bar. The girl was at the bar; however, she was sitting with another person and passenger number one became emotionally upset. Rather than cause a disturbance, operator number one took passenger number one out of the bar and proceeded to go for a ride, traveling south on a road.

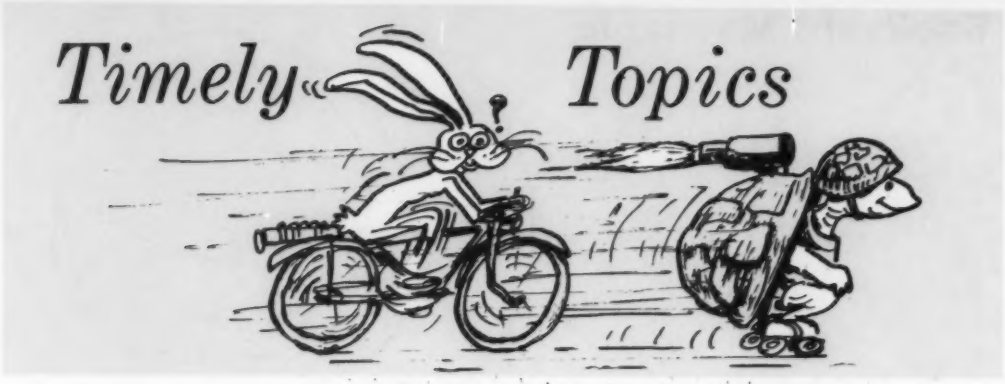
As they approached an intersection, passenger number one suggested turning right and operator number one agreed. While traveling west, passenger number one climbed out the window and sat on the window frame, with his legs inside the vehicle and his body, from the waist up, outside. Operator number one attempted to talk passenger number one back inside the vehicle but passenger number one would not comply. Passenger number one was yelling at everyone in sight, male and female alike. During the ride, another POV with girl occupants came alongside to the left of vehicle number one. Passenger number one and the female occupants of the other POV were carrying on a conversation, while operator number one was attempting to maintain a safe distance between the other POV and his vehicle, at the same time being concerned regarding the safety of passenger number one.

With his attention on the POV on his left, operator number one's vehicle drifted to the right, his front right wheel went into a driveway entrance, then along the curbing. Due to the angle of approach and entering the driveway entrance, there was no bouncing action. The front right fender of vehicle number one sideswiped a utility light pole which was located one and a half feet from the curb's edge. Passenger number one also struck the utility pole with his body and face.

When the front right wheel bounced down the curbing, operator number one realized he had a flat tire. He drove on the street for approximately 190 feet, then pulled into an open area and stopped. Then he got out of his vehicle to inspect the tire, not realizing that passenger number one had been fatally injured. Operator number one observed that the fender was smashed, then looked up and saw passenger number one still hanging on the door, his upper body still outside the car and his legs inside.

Passenger number one was transported to the university hospital and pronounced dead of massive head injuries at 2257. Breathalyzer test of operator number one was .11 and Blood Alcohol Content (BAC) of passenger number one was .17.

Timely Topics



NTSB URGES ROADBLOCKS

Roadblocks should be used in all 50 states to catch drunken drivers, the National Transportation Safety Board says. In urging the roadblocks be used across the USA, the board said too many motorists still drink and drive because they have little fear of getting caught. Roadblocks already are used in 20 states and have been shown to be a major deterrent to drunken driving, the NTSB said.

SAFETY BELT DEFENSE

In five states if you sue for automobile injuries sustained in an accident, your award could be reduced if you weren't wearing a safety belt at the time of the accident. A study for the Federal Transportation Systems Center found that where the safety belt defense was allowed, reductions in damage awards ranged from a high of 50 percent to a low of 10 percent. According to the study, the defense is widely used in New York, California and Wisconsin; less in Illinois and South Carolina. Indiana is now considering legislation.

SAVING LIVES ON THE ROAD

Last year, 44,300 Americans died in automobile accidents. Sen. John Danforth, R-Mo., says that 20 percent of those deaths can be prevented with proper safety equipment. Here are some highlights of highway safety legislation proposed by Sen. Danforth. The bills —

- Require air bags in the best-selling automobile lines — about 1.5 million cars.
- Require brake lamps to be mounted at a higher level on vehicles.
- Give incentive grants to states that have a minimum drinking age of 21 years or that require child safety seats.
- Increase the Department of Transportation authority to regulate trucking.
- Toughen regulations governing transportation of hazardous materials.

REGISTER TIRES

Tire buyers should make sure that their tires are registered with the manufacturer when they buy replacement tires so they can be contacted in event of a recall, says the Tire Industry Safety Council.

"The manufacturer can't get in touch with you directly unless he has your name and address on file," said Donald G. Brotzman, Chairman of the Council. "While a recall is not likely, it is important to make sure your tires are properly registered just in case."

Brotzman issued the reminder as a new voluntary tire regulation form for independent tire dealers was prescribed by the National Highway Traffic Safety Administration.

Under federal law, independent tire dealers and distributors are no longer required to register tires for you. They are only required to give you a registration form containing the DOT identification number of the tire and the name and address of the dealer.

The buyer may then fill in his own name and address, and mail the card back to the tire manufacturer or his record-keeping designee. The manufacturer can then contact the buyer in event of a tire recall.

The new regulation also permits independent tire dealers to offer to complete the form for tire purchasers if they wish, and mail it back to the manufacturer.

The new form, designed by the National Highway Traffic Safety Administration, requires only a postcard stamp, currently 13 cents. It succeeds a form in use since June 20, 1983, which required first class postage. The new form will be required after April 1, 1984. In the meantime, the old form may be used.

"Make sure your tires are registered one way or another, for your own benefit," said Brotzman.

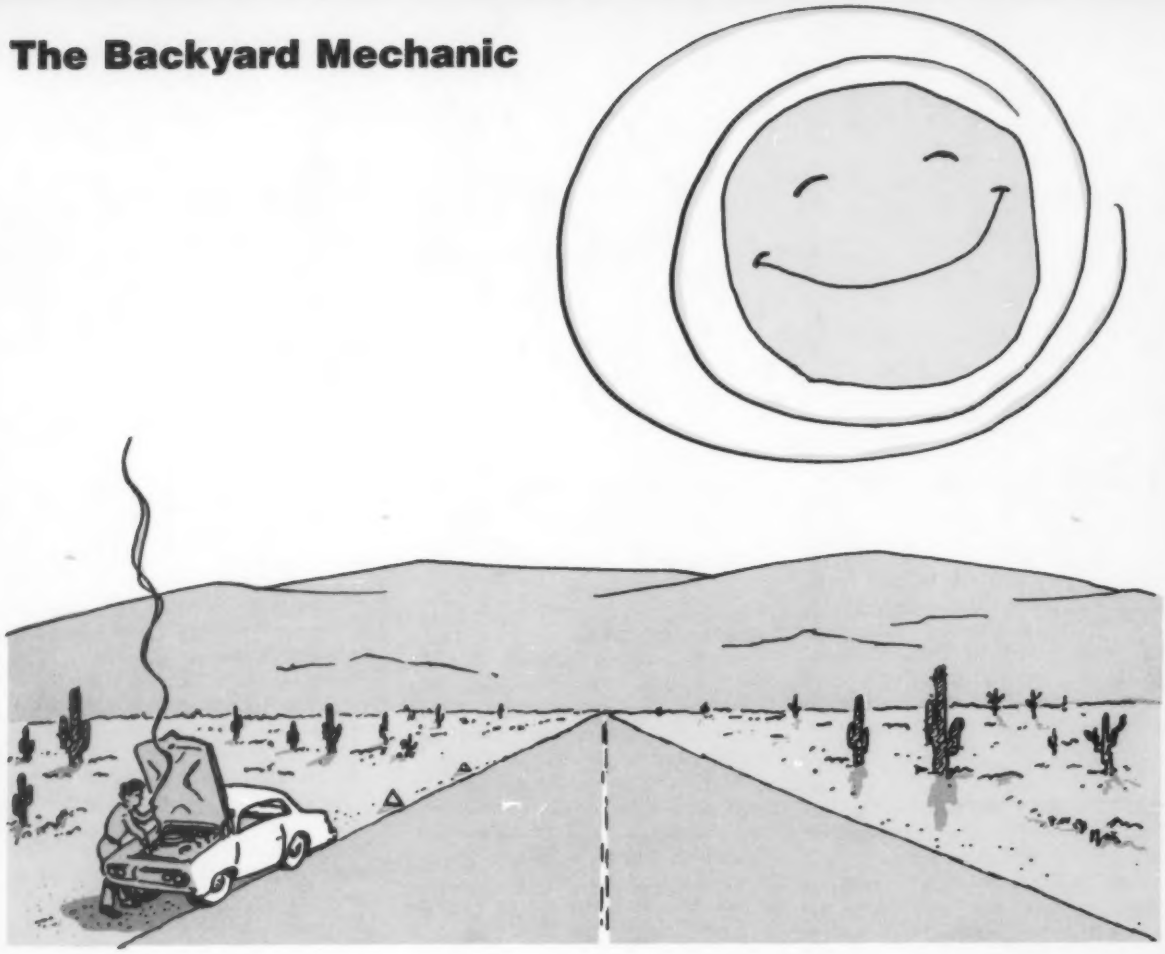
The National Traffic and Motor Vehicle Safety Act provides for replacement of tires recalled because of safety defects or non-compliance with government regulations. The replacement is at no charge if the owner returns the tire within 60 days of notification by the manufacturer. Under the law, tire outlets owned by manufacturers and certain brand name marketers must continue to fill out the registration forms for customers and return the forms to the manufacturer as in the past.

PREFERRED USED CAR COLORS

Runzheimer and Co. Inc. says that bright red and beige are the colors preferred by most used car buyers. Blue cars also sell well unless the shade of blue is too light. Yellow, white and metallics are not in much demand and green is downright unpopular. Runzheimer says the right color car can make as much as a $300 difference in the selling price.

VISIBILITY OF CAR COLORS

According to engineers at Daimler-Benz, the visibility of car colors depends on lighting, weather and traffic conditions. In most situations white is most visible. In heavy snow or white sand, yellow and orange are best. Under adverse conditions the most difficult car colors to see are gray, red, blue, brown or black. The least visible color in all situations was dark green.

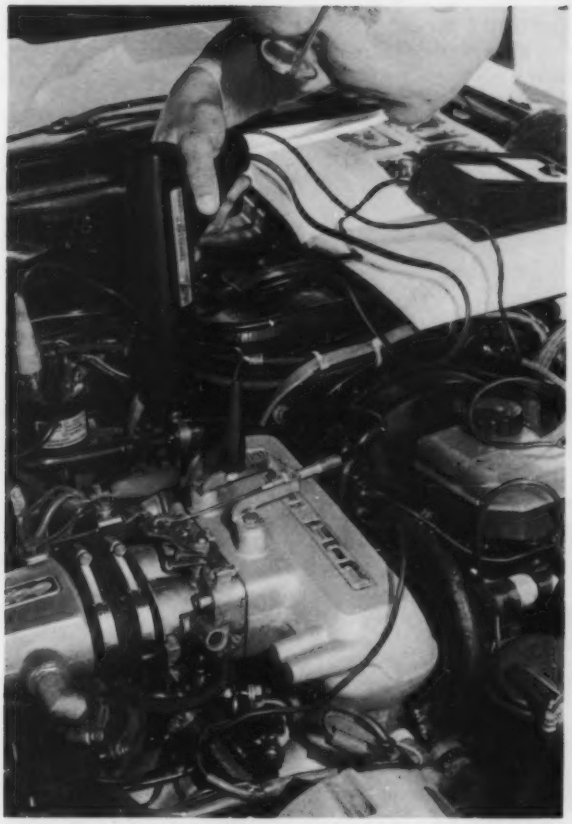


THE SUMMER SAFETY CHECK

Summer is almost here and regardless of whether or not you're planning a long vacation drive it's time for a Summer Safety Check.

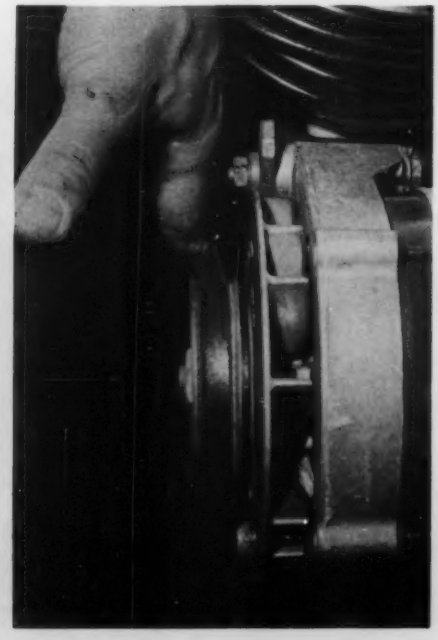
The wise traveler always conducts a complete maintenance servicing with a heavy emphasis on safety before any extended trip. After all, why spend vacation time broken down at the side of a deserted highway miles from nowhere? It just takes all the fun out of time off. Besides it can be downright frightening to be broken down as well as extremely dangerous.

And even if you're not planning any long trips this summer, the warmer months of the year can be just as hard on you and your car as the winter was. So it is far better to pay close attention to your vehicle now than for both you and the car to end up boiling at the side of the road on the way home from work some Friday afternoon or on the way to that championship-determining doubleheader Sunday.



A tune-up is a must before the summer begins. Even if you did a complete tune-up last fall, it's always best to check the timing twice a year.

The engine oil and filter should be changed before tackling any summer driving.



(far left)
Check that air filter. It can be costing you miles on the miles-per-gallon scale.

(left)
Don't forget to check the condition and tightness of all drive belts.

continued

✓ CHECKLIST

CHECK:
- All drive belts
- Starter connections
- Alternator connections
- Radiator hoses
- Clutch play
- Radiator cap pressure
- Manifold heat valve
- Air conditioning system for leaks
- Air conditioning refrigerant level
- Windshield wiper blades
- Windshield washer system

REPLACE:
- Engine oil
- Oil filter

LUBRICATE:
- Front suspension

ADJUST:
- Timing

ROTATE:
- Tires

If you didn't do the following last fall, do them now.

CHECK:
- Entire brake system
- Tire tread depth
- Shock absorbers
- Engine mounts
- Steering linkage
- PCV Valve
- Sparkplug wires
- Rear axle fluid level

REPLACE:
- Sparkplugs (Points and Condenser if your vehicle is old enough to have them)
- In-line fuel filter
- Windshield wiper blades
- Coolant, after flushing and back flushing radiator and block separately

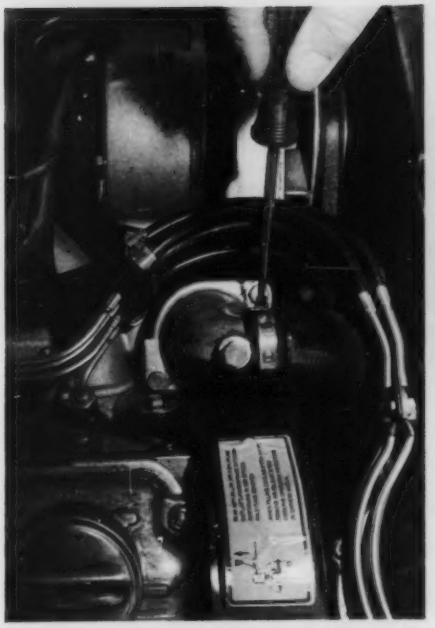
LUBRICATE:
- Universal joints
- Shifting linkage
- Wiper linkage
- Hood release
- All body hinges

ADJUST:
- Dwell
- Clutch pedal free travel

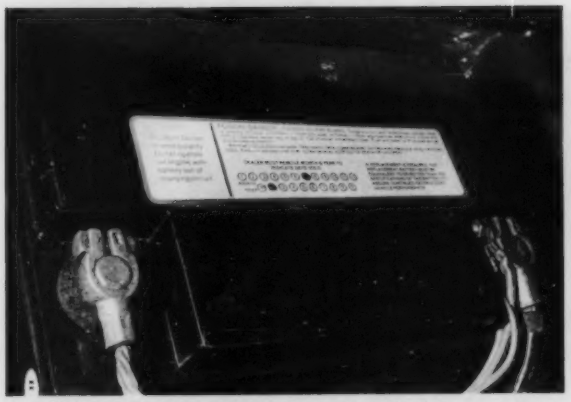
CLEAN:
- Air filter

Winter and spring can be hard on windshield wiper blades. This one must be replaced.

You'll want to check to make sure all your lights are working, and working properly.



Before tackling the heat of summer you'll want to completely check your cooling system from coolant level to condition of the hoses and their connections.



In addition to checking the battery's condition, check its warranty date. If it's within six months of expiring, buy a new one.

Make sure the windshield washer system works properly.

Among the fluid levels you'll want to check is that of the brake master cylinder.

continued

And don't forget the condition of the spare. By the way, where is the special can used to inflate this spacesaver spare?

Looking through the web of the wheel is NOT how to check brake conditions. Brakes require a complete, wheels-off examination.

The brake check also includes all the brake lines and hoses.

The wrenches that come with most cars won't loosen wheel lug nuts no matter how hard you try. Invest in a good lug wrench before you get stranded.

Some of the spares you'll need to carry in your car include wheel chocks, safety triangles or flares, jumper cables, gloves, a first-aid kit, electrician's tape, safety wire and a tool kit. The tool kit should include adjustable wrenches, short slot screwdriver, Phillips screwdriver and locking pliers. In addition to the already mentioned jack, plywood base and lug wrench you'll also want to have a battery-powered light, sparkplugs, ignition parts, lower and upper radiator hoses, drive belt(s), heater hose, epoxy sealer, silicone gasket, fuses, carb cleaner and a good fire extinguisher.

Make sure all the tires are properly inflated and in good condition from the tread face to the bead, including the sidewalls.

(left)
A one-foot-square piece of 3/8- or 1/2-inch plywood makes a good base to keep your emergency jack from sinking into the ground.

BACKFIRE
LETTERS to the EDITOR

SEAT BELTS FOR SCHOOL BUSES?

On my installation, as well as most others, a great deal of concern is placed on the wearing of seat belts. The big selling point recently seems to be centered around our children, "our most precious commodity." Child safety seats, rules and regs on not putting children in the front seat and/or on mommy's lap and other angles are pushed — usually with gory examples of the alternatives.

Although I am a firm believer in seat belts, I see that we ignore, or don't care to look at or investigate the feasibility of *requiring* that school buses or any other vehicle used for transporting school age children, have seat belts and that occupants be required to wear them.

School age children who ride buses, which I could guess would be a majority percentage, spend approximately 60-90 minutes a day for 180 days going to/from school.

It doesn't take long to figure out that the average kid spends as much time in a school bus as in the family car and although I realize there are a lot more "family" cars than buses, I don't know of any "family" vehicles carrying 40 to 60 school age passengers.

How about an article on school buses and seat belts? I, and I'm sure others, would like to know about this subject. Why don't our children have the option to MAKE IT CLICK in the vehicle in which they spend the majority of their time?

Mike Sumner
San Antonio, TX 78209

Federal law requires seat belts in all school vans and small minibuses manufactured after April 1977. Any school district that wishes to equip its larger buses with seat belts is free to do so and many school boards are voting to install belts in their buses. Nevertheless, progress in this area seems painfully slow.

DRIVERS LICENSE CONTROL

It's gratifying to know that, even if all the letters sent to you are not actually printed in your column, you at least read them and act on any suggestions they contain. My letter to you of last September concerning the "pre-accident" driver must have struck a nerve because three out of the last four issues of DRIVER contained relevant articles on in-traffic safety or driving techniques. Thank you for vindicating my position.

One more suggestion. Is there some way AF/SEDD could become more activistic or militant in advocating better driver license control and state vehicle safety programs? I realize as a federal agency, the Air Force is supposed to keep out of the 50 states' business, but in situations where drivers' safety is everyone's concern, overstepping "jurisdictions" should be a minor concern. I am particularly concerned over how some states issue/reissue drivers licenses and to whom they do so, especially to repeat accident drivers (e.g. DUI's), drivers with severe medical conditions, and senior drivers, some of whom can't even see or react (ref. the recent *60 Minutes* expose in Florida). Proselytizing for vehicle safety inspections before vehicle tags are issued/reissued needs to be addressed also.

DRIVER is an excellent publication. I hope your mailing lists include the American public in general as well as the Air Force and the military. Keep up the good work!

1st Lt. Lawrence H. Vorderer, USAF
Peterson AFB, CO 80914

Mail from readers has great impact on the selection of subjects for the magazine. So far as the way drivers licenses are issued, you are certainly right. People have been talking for years about a national register of licenses, one of the goals of which would be to prevent a driver getting a license in another state after revocation of a home-state license. It boils down to the fact that most people believe driving is a right, not a privilege.

NO RIGHT

I have been reading DRIVER magazine for the last eight years, and enjoyed every issue. I really enjoy reading some of the letters printed in your BACKFIRE section. Sometimes I really need a laugh. Some of the people who write to you really have some good comments, but others don't have the brains of the piece of paper they wrote their letters on. Take our friend Pal Stevens from Dallas, Texas (January '84 issue). He writes his views on the use (or non-use) of helmets. I must respect his right to make his own decision, but he has no right to raise my insurance rate.

Mr. Stevens is right. I do call him a fool, an idiot and ignorant, but that is his choice. Every time a motorcyclist is killed or injured in an accident, the insurance company shells out big bucks to pay off his policy. Now the insurance com-

pany is there to make money, so when they pay those big amounts, where do you think the money comes from to cover those costs? Sure, policies are written on an individual basis, but an overall factor is used to recover money lost. If there is a coverage area that has numerous claims against it, the company raises the cost of that coverage, and everybody helps pay for that. So let's think of a way to reduce that big factor. If people should have the right to choose not to wear helmets, then the insurance company should have the right NOT to pay on his policy if the rider did not take steps to protect himself by wearing protective gear. It all falls under negligence.

If the cyclist does wear a helmet, his chances of survival will be greatly increased. A study conducted in California, called the Hurt Study, showed that 60% of the riders involved in an accident were not wearing a helmet. Helmeted riders showed significantly lower head and neck injury, at all levels of injury severity. I have something to live for, and I enjoy my life. You will never find me without my helmet in its proper use. That is my choice.

Even most anti-helmet activists agree that the helmet helps in an accident, but they also think that an accident at 50-60 mph has no use for a helmet. WRONG. There is proof of riders surviving crashes at speeds over 75-80 mph wearing helmets, while ones without have died at speeds *under* 10 mph due to head injuries. Why do you think pro racers wear them? Believe me, it's not to keep their hair neat for pictures at the end of the race.

Some people even think that they are too good of a rider for an accident to happen to them, so they don't wear their helmet. Fifty-three percent of accident victims (motorcycle riders) had no expectation of accident involvement. No matter how good a rider you are, it's that car in front, behind or alongside of you that might make a mistake and you may have no choice but to bite the big one. NOBODY is exempt.

I am a safety instructor with the Motorcycle Safety Foundation, and I've heard all the excuses for not wearing helmets. I can disprove all of them. I stress the importance of safety equipment to all my students and urge them to use it each and every time they ride. It is a proven fact that helmets can save lives, even for those who have too big of a head to fit into one. Helmet laws are made to protect the ignorant people who have no respect for safety, theirs or that of others. So please, do us all a favor, wear your helmet, save your life and do your part to save some of that money that Mr. Stevens is so eager to waste. That's my tax money too.

TSgt Jeremiah W. Lehman, USAF
Dayton, OH

ENGLISH A FOREIGN LANGUAGE?

DRIVER Magazine is a 4.0 publication which I read from cover to cover. Bravo Zulu!

However, every time I read the phrase "high rate of speed" I wonder if you are suffering from a "high degree of temperature" and feel like shouting "NO!" at a "loud level of volume."

Lt. Cmdr. James R. Frysinger, USN
Charleston NB, SC 29408

P.S. If English is a foreign language for you, let me point out that the above phrases should be:

"high speed"
"high temperature"
"loud volume" or "high volume"

Would you believe we have been contaminated by the language of the official accident report? Probably not. Our penance is to print your letter instead of hiding it on the shelf behind our 19 grammar and style books.

NOT "PREACHY"

I read with interest and, I must admit, a little impatience the letter titled "It's Not a Foolish Question" in the January 1984 DRIVER.

I feel your answer was both courteous and tactful without compromising your stand on the issue. Please continue to stress the importance of using helmets and seatbelts — evidently not everyone is convinced yet that they should wear them.

I must disagree with the writer that you portray the image of a non-safety-equipped rider as being "immature, ignorant, and an outlaw biker." On the contrary, I've found your articles on helmets, seatbelts and safety equipment to be informative without being "preachy." I guess we're just reading them differently.

Maybe mandatory helmet and seatbelt laws do irritate people and no doubt some readers are tired of seeing articles on them in DRIVER, but if just one serious injury or death is prevented I feel it's worth making a few people upset.

Thanks for producing such an entertaining and informative magazine every month. You're doing a great job.

Sgt. Mike House, USAF
Minot AFB, ND 58704

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(Official USMC Photo by Sgt W.L. Pettingill)

This is what happened

to the helmet of a Marine Aircraft Group 41 leatherneck who crashed his motorcycle. The Marine survived the accident with only minor injuries — thanks to wearing this helmet and other protective gear. Statistics have shown that many motorcycle fatalities occur because of head injuries sustained when not wearing a helmets.